

ftth rf overlay

DKT COMEGA



about dktcomega

DKTCOMEGA develops optical and coaxial products for professional broadband operators and solution providers.

The company was founded in 1977. Its headquarters are in Denmark and it has subsidiaries in Sweden, Finland and China. As a dynamic and innovative company, its ambition is to deliver the best and broadest selection of quality products and advice when it comes to optical, coaxial and HFC broadband networks.

With thirty years of experience in coaxial broadband networks, DKTCOMEGA offers a comprehensive product portfolio, making it a strong partner for broadband operators. The solid experience gained by DKTCOMEGA is reflected in its products, these being characterized by high quality, top performance and easy installation.

The broad range of products covers everything from the wall outlet to the head-end. This satisfies all needs when building and maintaining today's modern broadband networks. As a result, customers turn to DKTCOMEGA for products and advice when it comes to optical, coaxial and HFC broadband networks.

DKTCOMEGA's mission

DKTCOMEGA's mission is to be a strong partner in network products for European broadband operators and solution providers. Based on know-how and natural enthusiasm, good ideas are developed into successful products. This is done with the customer, who furthermore appreciates the broad product range, the attractive quality/price level and the unique customized products. DKTCOMEGA's flexibility and proactive attitude assists in optimizing broadband networks.

For further information please contact DKTCOMEGA at sales@dktcomega.com

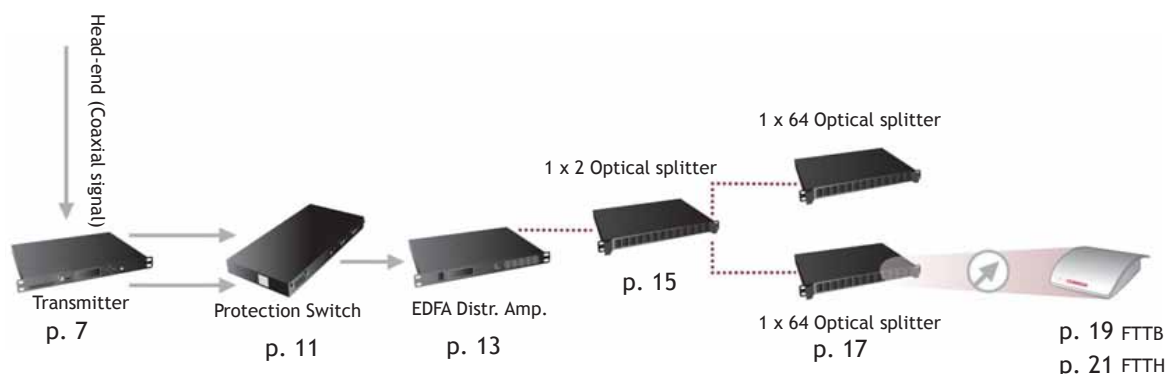
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design solution

The DKTCOMEGA RF Overlay solution is suitable for active Ethernet networks as well as for PON networks.

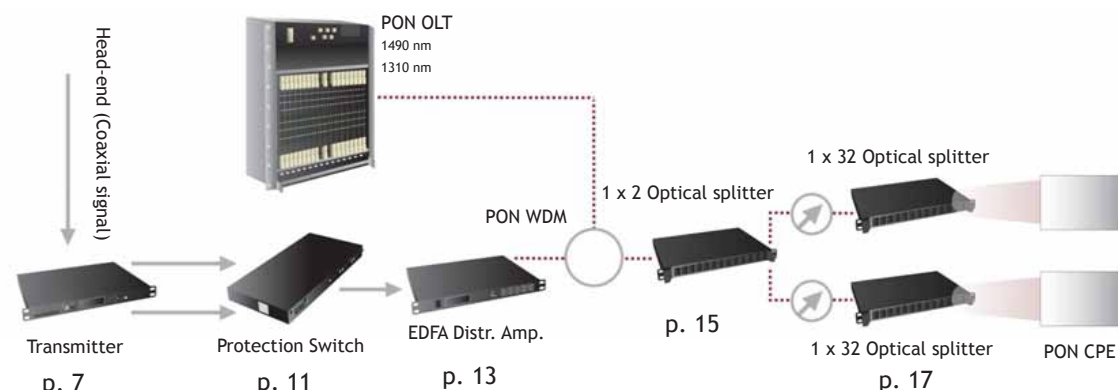
Point-to-Point, Active Ethernet RF overlay solution

The RF signal is distributed from a standard RF head-end through an E/O 1550 nm laser transmitter. The RF signal is transported by a separate fibre network to the PoP station in the field. Optical protection of the primary and secondary signal routes is optional through a protection switch. An EDFA amplifies the signal and distributes it through an optimized design of splitters to the customer's P2P CPE.



PON RF overlay solution

The RF signal is distributed from a standard RF head-end through an E/O 1550 nm laser transmitter. The RF signal is transported by a separate fibre network to the PoP station. Optical protection of the primary and secondary signal routes is optional through a protection switch. A PON coupler combines the RF signal with the data traffic from the PoP OLT, which uses a different wavelength (1490 nm), putting both wavelengths on the same fibre PON and distributing them downstream through the splitters to the customer's ONT/ONUs.



references

Introduction

Since 1999, DKTCOMEGA has gained long and extensive experience in supplying RF overlay solutions for small, medium and large FTTH networks ranging from 50 - 400,000 potential homes. Our experience stems from foreign and domestic projects with standard and customised solutions.

Profiber (Denmark)

Profiber is a co-operation between three large utility companies in Denmark, which will be offering a FTTH connection to all utility customers in their area. This includes municipalities, households and private businesses.

Potential homes passed: 400,000

RF overlay solution for medium sized PoP stations.

Start-up: 2008

Other: The CPE gateway supplies 100/1000 Mbps with auto switching since 2007.



Danish Broadband (Dansk Bredbånd - Denmark)

Danish Broadband is one of the leading service providers of fibre optical networks in Denmark. In close cooperation with different utility companies, they supply triple-play and on-demand services to households, municipalities and private businesses.

Current homes passed: > 30,000 households

RF overlay transmission and access network.

Start-up: 2003



NEF Fonden (Denmark)

NEF Fonden is a small Danish utility company. NEF Fonden deploys a triple-play FTTH infrastructure and offers triple-play services in close corporation with a service provider to all utility customers in their area.

Current homes passed: 1,000

RF overlay: End-to-end RF overlay network from head-end to subscriber.

Start up: 2003



Gothnet (Sweden)

In combination with a powerful Ethernet connection and VoIP services, Gothnet deploys an end-to-end RF network for its TV services. The solution includes RF delivery for Fibre-to-the-Home and Fibre-to-the-Building.

Active subscribers: 16,000

RF overlay: End-to-end solution including laser transmitters, EDFAs and optical splitters.

CPE gateway: FTTB optical node and FTTH CPE.

Start up: 2002





Benefits

- Maximum performance
- Stable operation
- Simple plug-and-play
- Easy installation
- Easy network management via HTTP/SNMP

laser transmitters

Product information

The laser transmitters support today's need for optical transmission of RF signals in modern fibre optical broadband networks. To complement Internet and voice applications, DKTCOMEGA provides unique solutions for RF transmission for long haul and short haul applications.

The product line consists of two different series, depending on the required signal transmission distance; thermally stabilised DFB isolated lasers for short haul and externally modulated lasers for long haul. Both lines can simultaneously transmit a high number of channels with superior performance.

Externally modulated transmitter

The transmitter takes advantage of advanced fibre dispersion compensation circuitry to provide exceptional CATV performance. It provides a cost-efficient, transport solution for medium to long distances.

- Handles conventional cable television as well as DVB-C and DVB-T formats.
- Suitable for long haul applications up to 90 km.
- SBS suppression for optimized CSO and CTB over long haul fibre lengths.

DFB laser transmitter

The DFB optical laser transmitter employs a high performance thermally stabilised, DFB, low-chirp isolated laser to transmit 1550 nm CATV signals.

- Handles conventional cable television as well as DVB-C and DVB-T formats.
- Suitable for <10 km fibre links and short haul FTTH access networks.
- Possible >30 km reach on 1550 nm dispersion shifted fibres.

laser transmitters

1550 nm dfb

Product information

The Light Link® Series 2 optical transmitter model LT1550 employs a high performance thermally stabilised, DFB, low-chirp, isolated laser to transmit CATV signals. Operating on a specific optical wavelength in the ITU-DWDM grid, the unit suits single-mode optical fibre networks with or without Dense Wavelength Division Multiplexing (DWDM).

Designed for high channel loading and superior performance, DKTCOMEGA can guarantee distances with this transmitter of up to 10 km, and with the correct fibre quality distances of up to 30 km.

LT1550 optical transmitters incorporate a comprehensive alarm and status monitoring system. This is for all laser operating parameters such as DC Laser Bias Current, Cooler Current and Optical Output Power.

The data is simultaneously available on a front panel LCD display, on a USB connector and optionally via a HTTP/SNMP network module.



Features

- Analog InGaAsP DFB low-chirp laser with optical isolator and thermoelectric cooler.
- Handles conventional cable television as well as digital DVB-T or DVB-C formats.
- 45 ~ 1000 MHz forward path RF amplifier with automatic gain control (AGC) for a constant Optical Modulation Index (OMI).
- Automatic Peltier thermo-cooler control and automatic laser power control for constant laser temperature and optical output.
- Self-contained 19-inch subrack 1 RU with integrated universal mains power supply.
- Backlit LCD display provides status monitoring and control.
- Front panel mounted USB craft port with optional Ethernet port on the rear panel for SNMP/HTTP network management.

Optical and RF	Data
Optical wavelength	ITU grid channel (193,3 THz), 1550 nm range (1550,92 nm)
Optical output power options (mW)	6, 8, 10
Optical connectors	SC/APC, E2000/APC, FC/APC
RF bandwidth (MHz)	45...1000
RF input level (dBμV)	85 at 4 % OMI
RF flatness (dB)	± 0,75
RF gain control (dB)	-15...5
RF input (Ω)	75 SCTE F-type
RF test point	-20 dB ± 1 dB, 75 Ohm Mini-SMB
Link performance	(measured at 0 dBm optical input, 1550 nm 10 km SMF and 4% OMI) 42 CENELEC channels (as per EN50083-3)
Carrier-to-Noise Ratio (CNR) (dB)	> 53
Composite Second Order (CSO) (dB)	> 55
Composite Triple Beat (CTB) (dB)	> 61
General	
Power	90 ~ 264 VAC 50 ~ 60 Hz
Power Consumption (W)	46
Operating temperature (°C)	0...45
Dimensions (H x W x D mm)	44 x 483 x 360
Weight (kg)	5
Craft port (management system)	USB on front panel
Network port (SNMP/HTTP)	10BaseT
Declaration of conformity	CE: EN50083-2

laser transmitters

1550 nm externally modulated

Product information

HEMT 2100 is a state-of-the-art high performance 1550 nm externally modulated CATV fibre optic transmitter. This line of transmitters couples high optical output powers, with low optical line width resulting in unmatched performance.

The optical modulator, combined with the proprietary predistortion circuit, provides superior CTB and CSO performance with SBS suppression levels of 18 dBm. Newly introduced features such as built-in field adjustable SBS control and electronic dispersion compensation allow the transmitter to be quickly optimized in the field for any link or application without the need to procure specifically tuned transmitters.

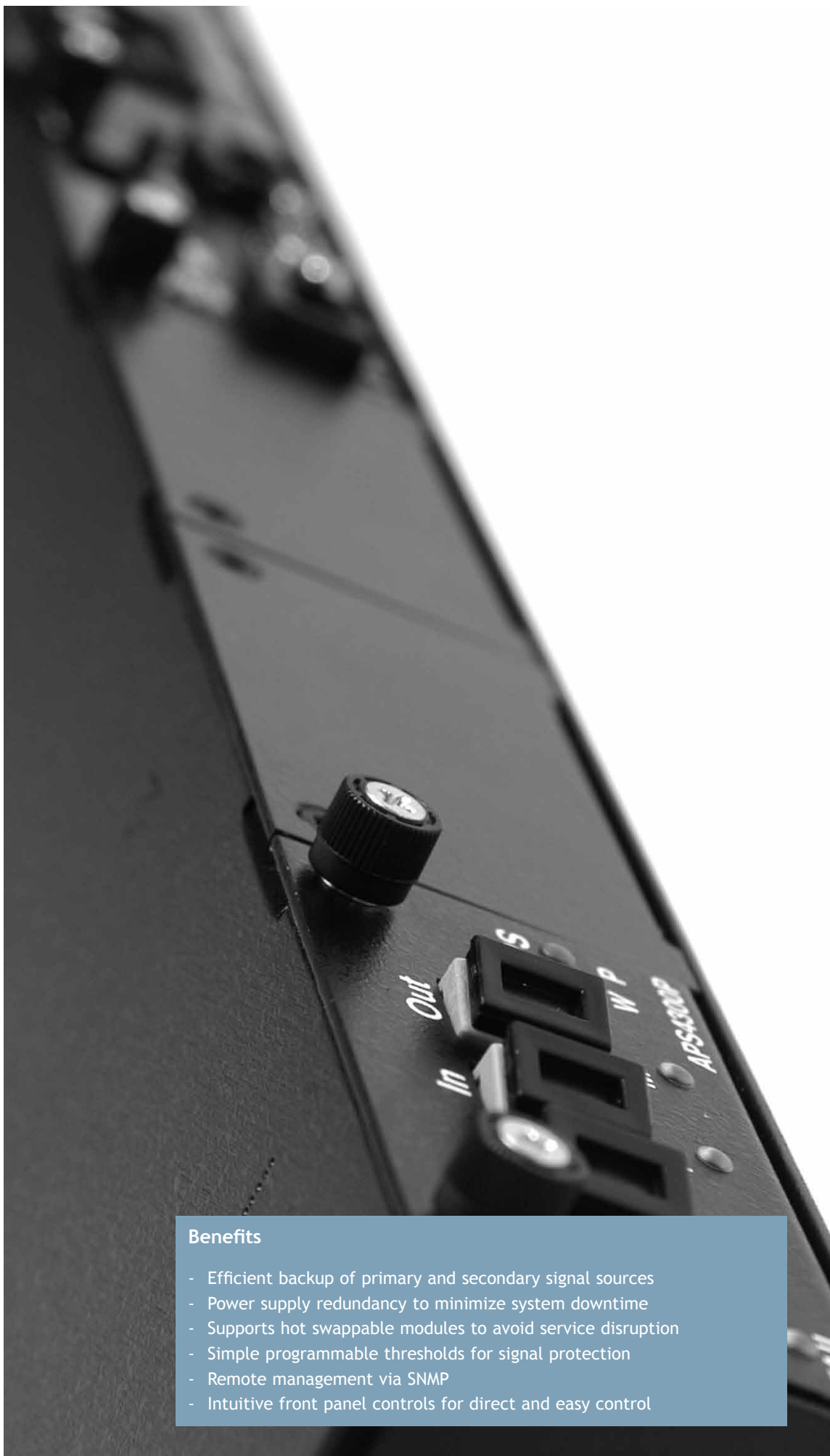
The HEMT 2100 transmitter is a high performance 1550 nm externally modulated transmitter optimized for single EDFA fibre links up to ninety kilometres. This transmitter takes advantage of advanced fibre dispersion compensation circuitry to provide exceptional CATV performance. The HEMT 2100 transmitter provide a cost-efficient, transport solution for medium to long distances.

Features

- Single or dual optical outputs.
- Front panel RF test point.
- RS-232 control interface.
- Electro-fluorescence status display.
- OMI/RF gain adjustment.
- AGC select for CW, video, manual (no AGC).
- Industry-leading field adjustable SBS suppression.
- Field adjustable Electronic Dispersion Compensation (EDC).



Optical and RF	Data
Optical wavelength	1555 ± 5 nm, ITU-grid available
Optical output power options (mW)	2 outputs 6,0/6,0
Optical connectors	SC/APC, E2000/APC, FC/APC
RF bandwidth (MHz)	45...870
RF input level (dBμV)	20 ± 2 (CW mode), 18 +/-1 (Manual mode) at 4 % OMI
RF flatness (dB)	± 0,75
RF gain control (dB)	-4...2
RF input (Ω)	75 SCTE F-type
RF test point	-20 dB ± 1 dB down from RF input (measured at 0 dBm optical input, 1550 nm 80 km SMF and 4% OMI) 42 CENELEC channels as per EN50083-3
Link performance	
SBS Suppression (dB)	18
Carrier-to-Noise Ratio (CNR) (dB)	> 52
Composite Second Order (CSO) (dB)	> 65
Composite Triple Beat (CTB) (dB)	> 65
General	
Power	90 ~ 265 VAC 50 ~ 60 Hz (standard), 36 ~ 60 VDC (optional)
Power Consumption (W)	50
Operating temperature (°C)	0...50
Dimensions (H x W x D mm)	44 x 483 x 389
Weight (kg)	4,4
Network port (SNMP/HTTP)	RS-232 (custom interfaces available)
Declaration of conformity	CE: EN50083-2



Benefits

- Efficient backup of primary and secondary signal sources
- Power supply redundancy to minimize system downtime
- Supports hot swappable modules to avoid service disruption
- Simple programmable thresholds for signal protection
- Remote management via SNMP
- Intuitive front panel controls for direct and easy control

optical protection switch

Product information

The optical protection switch is the ideal solution for fibre line protection in FTTH networks. With thousands of FTTH subscribers connected to a PoP station, the protection switch provides a secure backup and ensures signal delivery to the subscribers. This is done by introducing redundancy in the network. In the event optical input failure from the head-end, by monitoring input signals and switching to the backup fibre, the switch maintains the optical output signal to FTTH subscribers. The optical protection switch is built on a 19-inch optical protection platform and an optical protection switch module.



Optical protection platform (OPP)

1U or 2U rack-mountable chassis are available. The OPP chassis uniformly controls any combination of protection modules, allowing users to choose the functionality that meets their deployment needs. Two hot-swappable power supplies can be hosted in a chassis - available as -48/-60 VDC and 110/220 VAC models. Redundancy is supported when an optional second power supply is used. The control module is responsible for controlling all modules and for managing communication. These modules can be removed without affecting traffic or functionality. The system can be managed from the front panel using an LCD and control buttons, through a CLI or via SNMP.

Optical protection switch module (OPS)

The OPS is an all-optical module that provides 1+1 single-ended unidirectional optical protection and is ideal for RF overlay applications. It is a 1-slot width pluggable module for the OPP enclosure and enhances service availability through fast all-optical protection switching. The OPS continuously monitors for Loss Of Signal (LOS) and Signal Degradation (SD). Remotely programmable power level thresholds with built-in hysteresis enable users to conveniently fine-tune the OPS failure detection logic. The OPS can be easily configured to work in either automatic or manual revert modes.

General (OPP)	Data
Rack height & width	1U, 19-inch mountable
Rack depth	ETSI and NEBS compliant 300 mm
Control interface	RS-232, Ethernet, LCD, LEDs, push buttons, dry contact
Operating temperature range (°C)	0...55
Power supply	110 / 220 VAC or dual feed -48 / -60 VDC
Power consumption (W)	Less than 7.5 to less than 25 depending upon installed protection modules
Management & control	
Remote	Ethernet using SNMPv1, CLI over Telnet
Local	CLI over RS-232, LCD with push buttons
Additional alarms	Dry contacts alarms relay Internal buzzer ACO (Alarm Cut Off) push button Front panel LEDs
General (OPS)	Data
Dimensions (H x W x D mm)	42 x 72 x 220
Weight (kg)	0.3
Space requirement (in OPP)	1 slot
Operating temperature range (°C)	0...55
Power consumption (W)	< 2.5
Optical	Data
Optical wavelength (nm)	Dual window (1310 & 1550)
Insertion loss (dB)	< 1.8 (typically < 1.4)
Protection switching speed (ms)	< 10
Selector crosstalk (dB)	< -50
Return loss (dB)	< -40
Threshold setting range (dBm)	10 to -40
Power monitoring accuracy (dB)	< 0.5
Optical connectors	SC/APC

Erbium-Doped Fiber

Benefits

- Easy plug-and-play installation and operation
- High power for dense FTTH subscriber applications
- Simple network management via HTTP/SNMP
- Many configuration possibilities
- High reliability/high MTBF

erbium doped fibre amplifiers (edfa)

Product information

The DKTCOMEGA EDFA is a rack-mountable integrated amplifier module and power supply. It has been designed for use in CATV and metropolitan network applications and Passive Optical Networks (PON) where stand-alone operation is required. It is also ideal as a booster, line or preamplifier.



The amplifier provides very stable optical outputs over a wide range of operating temperatures and this with low power consumption. It is internally supported with input and output isolators for system stability and optimal performance.

The amplifier incorporates electrical control circuits with DSP. This includes photo diodes for monitoring the optical input and the output power through tap couplers.

The amplifier has versatile functions and its status can be monitored from the LCD on front panel. The amplifier can be also operated from the front buttons and can be monitored and controlled via SNMP.

Features

- High saturation output power.
- CATV field-proven low noise figure.
- Wide input dynamic range.
- Stable output power over wide temperature range.
- Control and monitoring with SNMP.

Type	Number of outputs	Output power	Power Consumption (W)*1	Noise Figure (dB)
EDFA-17-220-SA-01-S	1	1 x 17 dBm	30	< 5
EDFA-17-220-SA-02-S	2	2 x 17 dBm	30	< 5
EDFA-17-220-SA-03-S	3	3 x 17 dBm	30	< 5
EDFA-17-220-SA-04-S	4	4 x 17 dBm	30	< 5
EDFA-19-220-SA-08-S	8	8 x 19 dBm	50	< 5,5
EDFA-21-220-SA-01-S	1	1 x 21 dBm	25	< 6
EDFA-21-220-SA-02-S	2	2 x 21 dBm	30	< 6
EDFA-21-220-SA-04-S	4	4 x 21 dBm	35	< 6,5

Optical performance for EDFA	
Optical wavelength (nm)	1550 (1530 - 1562)
Input power (dBm)*2	0 - 10
Optical isolation (dB)	30
Optical return loss (dB)	40
Connector types	SC/APC
General	
Power supply	100 - 240 VAC
Operating temperature range (°C)	20 - 65
Dimensions (H x W x D mm)	44/88 x 483 x 255/305
Weight (kg)	3 - 7
Network port (SNMP/HTTP)	10BaseT
Declaration of conformity	CE:EN50083-2

*1 Measured maximum consumption.

*2 Test condition where Input power = 0 dBm at 1550 nm and measured within operating temperature range.



Benefits

- Designed for high density FTTH applications
- Flexible solution
- Stand-alone modules or 19-inch rack cassettes
- Uniform and stable quality ensures OPEX/CAPEX savings

single mode dual window couplers (1x2 way)

Product information

Optical couplers are often used in network design, either for tap-off or to divide/combine optical signals. For this purpose DKTCOMEGA can offer a range of 1x2 couplers with a splitting ratio ranging from 5/95 to 50/50 using fused technology.

These couplers feature low insertion loss and are specially designed for broadband networks as well as long-haul transmission systems. SC/APC are available as standard connectors. Other connectors can be ordered upon request.



Features

- Complete range from 5/95 - 50/50
- High stability.
- Low insertion loss.
- High quality connectors.
- High network uptime.

Type	Coupler ratio %	Typical insertion loss (dB) *
OSP-S-5050-SC/APC	50 / 50	3,1
OSP-S-5545-SC/APC	45 / 55	3,6 / 2,7
OSP-S-6040-SC/APC	40 / 60	4,3 / 2,3
OSP-S-6535-SC/APC	35 / 65	4,7 / 2,0
OSP-S-7030-SC/APC	30 / 70	5,5 / 1,6
OSP-S-7525-SC/APC	25 / 75	6,1 / 1,4
OSP-S-8020-SC/APC	20 / 80	7,5 / 1,0
OSP-S-8515-SC/APC	15 / 85	8,4 / 0,8
OSP-S-9010-SC/APC	10 / 90	10,6 / 0,5
OSP-S-9505-SC/APC	5 / 95	13,5 / 0,3

Parameter	Data
Uniformity (dB)	max. 0,6
Polarization sensitivity (dB)	0.2
Operating wavelength (nm)	1260...1360 & 1430...1600
Return loss / Directivity (dB)	≥ 55
Operation temperature range (°C)	-40...85
Fibre type	G.652.D 9/125/2800 µm or 9/125/2000 µm or 9/125/900 µm
Port configuration	1 x 2
Dimensions (H x W x D mm)	98 x 14 x 8,5 or 100 x 80 x 9

* Measurements without connectors

Separate brochure is available.

single mode tree couplers (1x3 to 1x64 way)

Product information

Tree couplers are very often used to divide or combine signals from different locations in an optical network. For these applications DKTCOMEGA has a wide range of couplers to split and combine signals from 1x3 lines up to 1x64 lines.

The couplers feature low insertion loss, low excess loss, high directivity and are specially designed for long-haul telecommunications, CATV systems and LAN networks.

SC/APC is used as standard. Other connector types are available upon request.



Features

- High stability.
- Low insertion loss.
- High quality connectors.
- High network uptime.
- Option for 19-inch 1HU.

Type	Coupler	Typical insertion loss (dB)
OSP-S-03-28-SC/APC	1 x 3	4,9
OSP-S-04-SC/APC	1 x 4	6,2
OSP-S-05-SC/APC	1 x 5	7,2
OSP-S-06-SC/APC	1 x 6	8,0
OSP-S-07-SC/APC	1 x 7	8,7
OSP-S-08-SC/APC	1 x 8	9,3
OSP-S-14-SC/APC	1 x 14	11,8
OSP-S-16-SC/APC	1 x 16	12,4
OSP-S-32-SC/APC	1 x 32	15,6
OSP-S-64-SC/APC	1 x 64	19,3

Parameter	Data
Uniformity (dB)	0,10 to 1,2 (1x4), 1,8 (1x8), 2,4 (1x16), 3,0 (1x32)
Polarization sensitivity (dB)	0,10 to ,0,4 (1x4), 0,6 (1x8), 0,8 (1x16), 1,0 (1x32)
Operating wavelength (nm)	1260...1360 & 1430...1600
Return loss / Directivity (dB)	≥ 55
Operation temperature range (°C)	-40...85
Fibre type	9/125/2800 µm, 9/125/2000 µm or 9/125/900 µm

* Measurements without connectors

Separate brochure is available.

high density ftth splitter, 19-inch rack type

Product information

The OSP19-SC/APC is an optical splitter with SC/APC termination in a 19-inch 1U rack.

Tree-couplers are very often used to divide or combine signals from different locations in an optical network. For these applications DKTCOMEGA has a range of couplers to split and combine signals from 1x16 lines and up to 1x64 lines in 1U.

These products feature low insertion loss, high directivity and are specially designed for CATV communication and FTTH/FTTx communication networks.



Features

- High stability.
- Low insertion loss.
- 19-inch mounting.
- High quality connectors.
- High network uptime.

19-inch rack optical splitter

Parameter	16-way	32-way	64-way
Typical insertion loss (dB)	13	20	20
Typical uniformity (dB)	2,4	3	2
Polarization sensitivity (dB)	0,8	1	0,3
Operating wavelength (nm)	1260...1360 & 1430...1600	1260...1360 & 1430...1600	1260...1360 & 1430...1600
Return loss / Directivity (dB)	≥ 55	≥ 55	≥ 55
Operation temperature range (°C)	-40...85	-40...85	-40...85
Fibre type	G.652.D 9/125/900 µm	G.652.D 9/125/900 µm	G.652.D 9/125/900 µm
Port configuration	1 x 16	1 x 32	1 x 64
Dimensions (H x W x D mm)	44 x 483 x 170	44 x 483 x 170	44 x 483 x 170

Separate brochure is available.



Advantages

- Value line - compact deep fibre optical node
- High system performance - high levels/low noise
- Output splitter incorporated within the node
- Single compact unit, housing fibre optic receiver and a versatile RF amplifier
- Competitive price/performance

fibre-to-the-building (fttb) nodes

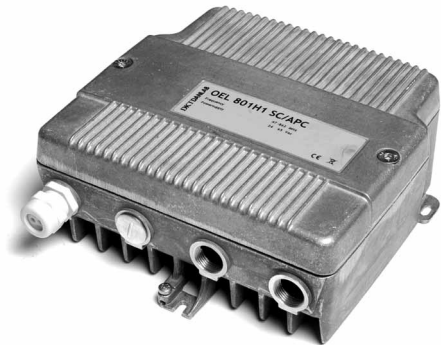
OE 801 series

Product information

The OE optical node is designed to terminate the fibre in any building/unit. This may be indoor or outdoor and for distribution to a number of subscribers. The node converts the optical signal to an electrical signal in a standard coaxial format, which is then easily distributed, for example within a multi-dwelling unit.

Whilst operating with a low power consumption level, this all-in-one active element has high system performance with output levels and low noise levels for distribution in an FTTB environment.

The node is a further development of the well-proven Midi platform of coaxial amplifiers and is characterised by high quality, top performance and easy installation and maintenance.



Forward path, optical section	OE 801H1
Optical wavelength (nm)	1290-1600
Optical input power level (dBm)	-6 to +2
Equivalent current noise - 47 / 862 MHz	6 pA/Hz
Forward path, Coaxial section	
Bandwidth (depending on diplexer modules)	47-862 MHz
Output level - high gain (optical link specifications)	100-110 dBμV
CTB (42 ch CENELEC) @ 0 dsMm / 4.5% OMI	62 @ 110 dBμV
CSO (42 ch CENELEC) @ 0 dsMm / 4.5% OMI	65 @ 110 dBμV
General	
Mains power, voltage	175-260 VAC
Power consumption (W)	15
Internally used optical connector	SC/APC
Coaxial outputs	PG11
Physical	
Dimension (mm)	220 x 180 x 82
Weight (kg)	2

Note: all specifications are with 0 dB link modules. If other modules are inserted, please correct for insertion loss.

Separate brochure is available.

Advantages

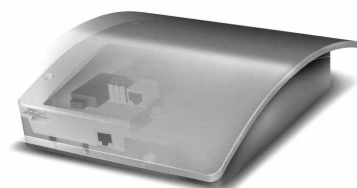
- The easiest way to add TV/FM services to an FTTH network
- Cost optimized - cost per TV/FM channel / service
- An open opportunity to add IP services at any time
- No need for set-top boxes
- Easy installation - ease of use - plug and play
- Services: TV/FM, DVB-C, DVB-T, DAB

fibre-to-the-home (ftth) cpe gateway

Product information

This is an ideal solution for terminating the RF overlay and distributing TV/FM services to many TV sets and FM receivers in a household (analogue and digital, QAM/QPSK).

The idea behind this type of network is to deploy a standard analogue/digital RF head-end at the transmission side. The RF signal is converted to an optical signal via a transmitter and sent through an optical network to the subscriber. Here the signal is converted back to an electrical signal via the DKTCOMEGA CPE gateway.



The CPE gateway suits analogue TV/FM delivery from 45-862 MHz, as well as DVB-C/DVB-T digital television and DAB standards. The high performance and low noise broadband optical receiver module provides an 88 dBμV output level with superior signal specifications, capable of handling a large number of radio and television channels for simultaneous delivery.

The TV/FM converter has a built-in optical AGC (Automatic Gain Control), which ensures stable RF output over the full -10 to -3 dBm optical input range. This feature increases flexibility in network design and eases installation and maintenance of the fiber network. This is because the optical input can change without compromising the RF output level delivered to the subscriber. The AGC function also enables CATV networks where redundancy is incorporated without end-users noticing the changed operating conditions of the fiber network.

TV/FM Converter	Data
Optical wavelength (nm)	1310...1550
Max optical input level (dBm)	-3
Operational optical input level (sensitivity) (dBm)	-10...-3
RF bandwidth (MHz)	45 - 862
RF output level* (dBμV)	88 ± 3
RF flatness (dB)	±1
CNR (Carrier-to-Noise Ratio)* (dB)	> 50
CSO (Composite Second Order)* (dB)	> 60
CTB (Composite Triple Beat)* (dB)	> 60
Optical indicator LED (dBm)	< -10 red > -10 green
RF connector, impedance	F-female 75 Ω
Optical connector	SC/APC

General	Data
Supply voltage** (VAC)	100 - 240
Operating temperature† (°C)	0...45
Power consumption (W)	< 2,5
Dimensions+ (mm)	240 x 210 x 60
Weight (kg)	0,8
Colour	White

* Measured at -3 dBm optical input, CENELEC 42 channels. OMI 4%

** Internal power supply

† Support for extended temperature range on request

+ 185 x 180 x 55 mm without trim cover

RoHS compliant

EMC Immunity: EN55024:1998+A1:2001+A2:2003

EMC emission: EN55022:1998+A1:2000+A2:2003

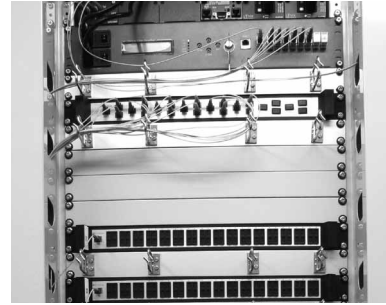
Low voltage directive: 2006/95/ECi, EN609501

Separate brochure is available.

feature/benefits

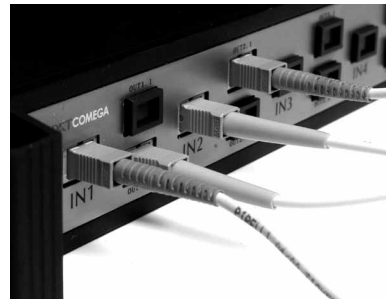
Compact and space-saving design

The DKTCOMEGA RF overlay solution has been designed with focus on space savings. When designing PoP stations and other subscriber dense locations in FTTH networks, space saving is an important issue to consider. In terms of CAPEX, more subscribers using the same space ultimately optimizes the investment in land, housing, 19-inch racks and ODF systems. Additionally, it is easier to upgrade an existing network in an existing PoP station when it uses a compact and flexible solution.



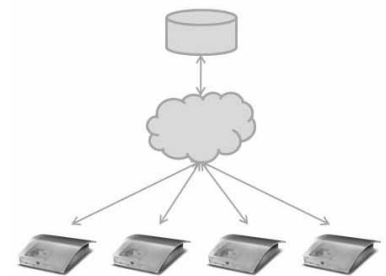
Fast and efficient

The DKTCOMEGA RF overlay solution is designed with focus on optimized OPEX. The solution offers fast and efficient access to all components. All optical ports are located on the front panel for easy access. Redundant and hot swappable PSU are also located on the front panel for fast replacement and maintenance. All components are based on standard technology and ensure interoperability with third-party equipment.



Lower network operating costs

The RF overlay solution offers end-to-end management and status monitoring on all active components via SNMP. Compared to traditional RF networks, the DKTCOMEGA solution supports a lower OPEX by optimizing total network operating costs and faster network troubleshooting. The solution can be managed remotely or locally from the individual front panels using an LCD and control buttons.



popkit solution

Product information

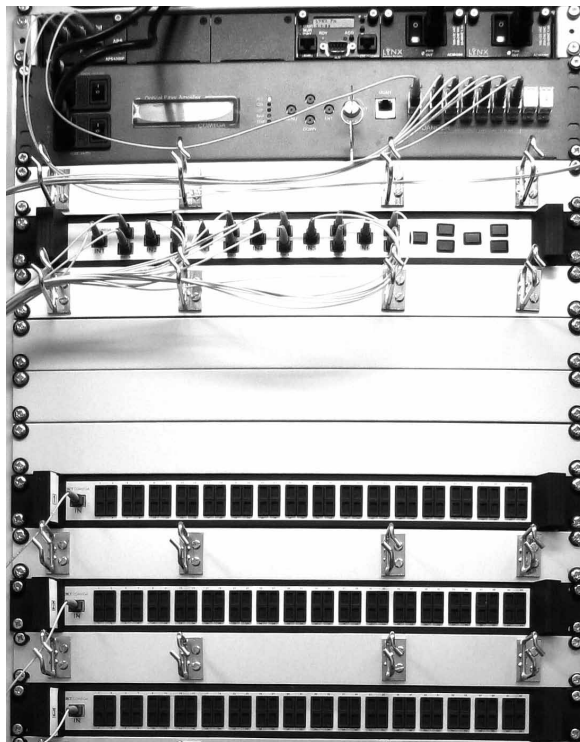
The DKTCOMEGA RF overlay solution has been designed for professional operators and solution providers. Consequently, there is strong focus on CAPEX and OPEX figures in the design and deployment phases.

When installing a number of FTTH PoP stations with RF and data equipment, it is important to consider the deployment process and its efficiency. Ease of installation and efficiency play an important role and DKTCOMEGA offers unique OPEX savings.

DKTCOMEGA offers individually designed PoP kit solutions. Complete individually packed component assemblies comprise PoP kit solutions and these include all the components that must be installed in a dedicated PoP location in the field. Hence, a PoP kit solution converts several item numbers into a single item number - it includes all the items for the PoP.

By providing easy-to-install single-pack end-to-end PoP kits, operators and solution providers benefit from a concept designed for OPEX savings. These benefits include:

- Efficiency in the field.
- Unique savings as regards warehouse handling.
- Simple packing and handling of a limited number of items.
- Space savings in the warehouse.



PoP kit solutions are designed and ready for 1024 subscriber installations.

